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COMMUNITY PRODUCTION OF DURANGO COTTON IN THE IMPERIAL VALLEY.

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INTRODUCTION.

Cotton growing in the irrigated valleys of southern California and Arizona, which was begun in 1909, has already become of great commercial importance. The gross income from the cotton industries in these two States in 1913 exceeded $1,400,000. In 1914 it was over $2,000,000, even under the poor market conditions of that season.

The United States Department of Agriculture has given assistance in extending the growing of long-staple cotton in the southwestern irrigated valleys, and in 1910 introduced Durango long-staple cotton in the Imperial Valley. This variety, which bears fiber from $1\frac{3}{16}$ to $1\frac{1}{4}$ inches in length, yields as well as short-staple varieties and brings better net returns. In 1913 the Durango crop amounted to 6,000 bales; in 1914, to 8,000 bales.

Cotton growing on a community basis—the growing of one sort of cotton in a community—with Durango cotton as the variety advocated, now has the support of those cotton growers of the Imperial Valley who are associated in a cooperative organization.

Many important problems are yet to be worked out to place cotton growing on the profitable basis it should assume under the local conditions of production, handling, and marketing. These problems should be frankly recognized and solved wisely if the cotton industry is to continue an important feature of the agriculture of the Imperial Valley.

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The evolution of this particular cotton industry is toward the growing of one superior variety of long-staple cotton exclusively. Of the problems connected with the industry, possibly the most important at this time is that of establishing a consistent production of large average yields of high-quality fiber.[1] The full possibilities of the industry will most quickly become realized by directing community effort toward the stabilization of long-staple cotton.

It is proposed in this paper to explain what is meant by stabilization, its bearing on the different interests involved in the production and marketing of long-staple cotton, and the manner in which the stabilization can be brought about. A discussion of the development of the industry is included, for the purpose of making clear the steps that have been taken toward the adoption of a long-staple variety.[2]

HISTORY OF THE INDUSTRY.

IMPERIAL VALLEY IN CALIFORNIA AND MEXICO.

The Imperial Valley is a portion of the delta of the Colorado River which extends some 40 miles on either side of the international boundary between the State of California and Lower California, Mexico. Cotton growing, like other agricultural enterprises, is practically continuous across the boundary. The irrigation system carrying water into California comes through Lower California, and the irrigation water for both sections is taken from the same main canal. Quarantine measures to guard against infestation by destructive insects are administered by California State and United States Federal authorities, and are designed to give these officers reasonable control over shipments of seed to and from Mexico, as well as into California from the Eastern States. The interests of cotton growers in Cali-

[1] See the article entitled "Cotton Improvement on a Community Basis" in the Yearbook of the United States Department of Agriculture for 1911.

[2] Investigations incident to establishing the long-staple cotton industry in the Southwest are carried on under the general direction of the Southwestern Cotton Culture Committee. The following is the personnel of the committee:

C. S. Scofield, Agriculturist in Charge of Western Irrigation Agriculture, is chairman of the committee and, in addition, has charge of those phases of the work which involve cooperation with the United States Reclamation Service. The author of this bulletin has been Mr. Scofield's field assistant in this work.

W. T. Swingle, Physiologist in Charge of Crop Physiology and Breeding Investigations, has charge of those phases of the work which involve cooperation with the Office of Indian Affairs. The Cooperative Testing and Demonstration Garden at Sacaton, Ariz., is under Mr. Swingle's direction.

O. F. Cook, Bionomist in Charge of Crop-Acclimatization and Cotton-Breeding Investigations, conducts investigations of the factors involved in the acclimatization of different types of cotton in the Southwest and of the relation of these factors to cultural methods. He has also been active in developing the idea of community cotton growing as a means of maintaining uniform varieties.

T. H. Kearney, Physiologist in Charge of Alkali and Drought Resistant Plant Investigations, has charge of the breeding work with Egyptian cotton and of investigations of the effects of alkali and other soil conditions upon the production of this crop.

C. J. Brand, Chief of the Office of Markets and Rural Organization, has charge of the investigations in classing, marketing, and transportation.

fornia and in Lower California are thus identical in many important particulars. The Mexican crop, largely increased in the past two years, has been ginned and marketed in California towns. As the gins do not report the Mexican crop separately, the statements and tabulation involving acreages and yields given later refer to cotton from the whole of the Imperial Valley.

EARLY PLANTINGS.

The first commercial crop of cotton, grown in 1909, was preceded by numerous test plantings. As early as 1902 a planting of Egyptian cotton was made by the Department of Agriculture at Calexico, Cal. This cotton grew luxuriantly and reproduced itself from the old stumps for a number of years. Settlers from the older cotton States planted a few seeds of Upland cotton on their ranches, and it was found that these plants thrived in the new country. It is probable that cotton plants were grown in the valley each season from the time irrigation water was brought in (1901) until the industry was definitely launched in 1909. Earlier plantings of cotton in other irrigated sections of southern California[1] indicated that success with cotton in the Imperial Valley was to be expected.

Half an acre of cotton near El Centro, Cal., planted in 1906 and ratooned in 1907 yielded well both seasons. This plat attracted much attention and had an important bearing in creating confidence in cotton as a crop for the valley and in crystallizing sentiment for cotton growing. A number of individuals made small test plantings in 1908.

Though the cultivation of cotton under irrigation conditions was little understood by the farmers in 1909, it had been clearly demonstrated (1) that seedling cotton yielded well and (2) that cotton could be ratooned or grown from old roots which lived through the preceding winter. The ratooning of cotton is here mentioned because of its bearing later on the progress of the industry.

EXPANSION OF THE INDUSTRY.

The first commercial crop, that of 1909, was grown on 450 acres, averaging a little more than three-fourths of a bale per acre. The 350 bales of the 1909 crop sold on a high market, much of it at 14 cents a pound. This proved a great incentive to more extensive planting in 1910.

In 1910 the crop amounted to 4,000 bales, and each year since then the total crop has been more than double that of the preceding year, with the exception of the 1912 crop. This did not equal the 1911 crop in size, due largely to the depressing effect of the low prices obtained

[1] Hilgard, E. W. Cotton in California. A bit of history of cotton planting in this State. *In* Cal. Cult., v. 40, no. 23, p. 691. 1913.

during the crop year of 1911. The 1913 crop, however, was three times as large as that of 1912. In 1914 approximately 43,000 bales were produced on 66,000 acres.

GINS, OIL MILLS, AND COMPRESSES.

The ginning equipment has kept pace with the expansion of the industry. The temporary equipment used for ginning the 1909 crop was replaced in 1910 by a complete ginning plant at each of five towns. By 1913 the number of gins had been increased to eight, and in 1914 more than double this number had been erected, in order to take care of the largely increased crop. The 19 gins now operated are owned by three separate companies. This equipment was more than sufficient to handle the 1914 crop. Half of these gins are located at Calexico, the border town, in order to handle the Mexican crop, which is all brought there for ginning.

The first oil mill was erected at El Centro in 1911. In 1914 two more mills were erected, at Calexico, one of them a cold-compress mill. The capacity of the oil mills has been expanded somewhat beyond the present requirements of the industry.

VARIETIES GROWN.

SHORT-STAPLE COTTON.

Short-staple cotton was grown almost exclusively for the first three years after the industry was started. Big-bolled varieties of Texas cotton were most popular, the Triumph and Rowden varieties predominating. The Triumph (Mebane's) cotton has now come to be the short-staple variety usually planted. This is an indication of the progressive development the industry has been undergoing from the beginning, as Triumph cotton is an excellent variety for the Imperial Valley conditions. It yields well and produces uniform fiber from 1 inch to $1\frac{1}{16}$ inches in length.

A number of short-staple varieties with small bolls and ununiform fiber, some of them quite inferior, have been tried on extensive acreages. The use of these varieties has been, as a rule, soon abandoned, but in crossing and mixing with seed stocks of good short-staple varieties they have left a damaging impress. The Georgia cotton introduced in 1909 and a variety called "World's Wonder" introduced in 1910 are examples of such inferior varieties.

Many of the growers have acquired all their experience in cotton growing in the Imperial Valley. These men have approached the problem of cotton growing under irrigation with open minds, which doubtless accounts in large measure for the success of the new industry. If better varieties and better cultural and marketing methods have become available, they have made use of them. It was in this spirit that their growers' cooperative ginning company

invited representatives of the Department of Agriculture to inspect their fields in the fall of 1910 and advise them as to which one of the varieties being grown was the best. The inspection included numerous fields of Mebane's Triumph, Georgia, World's Wonder, and one or two small fields of Allen's Long-Staple cotton. Long-staple cottons were not popular at that time, as only the small-bolled varieties were known to growers in the valley. A choice had to be made as to the best short-staple variety. When it was advised that seed of the Triumph variety be retained for planting and that the seed of all other varieties be sent to the mill for manufacture into oil, the advice was acted upon, and early in 1912 a further supply of Triumph seed was imported from Texas. This was a wise step, as the seed of the 1909 crop, used for planting in 1910, had become badly mixed. Since that time commercial plantings of short-staple cotton have been practically confined to the Triumph variety.

EGYPTIAN COTTON.

In 1909 it was determined by the Department of Agriculture that an improved acclimatized variety of Egyptian cotton was a success as a field crop under irrigation in southern Arizona and southern California. In 1912 a number of persons in the Imperial Valley were sufficiently interested to plant small acreages (5 to 10 acres) of the acclimatized Yuma variety.[1] While a few plantings yielded excellent fiber and as much per acre as short-staple cotton, proving that Egyptian cotton could be successfully raised in the Imperial Valley, the test also demonstrated that labor conditions in that valley, as well as the presence of Upland cotton, precluded the establishment of Egyptian-cotton growing there at that time.

LONG-STAPLE UPLAND COTTON.

The future success of the cotton industry in the Imperial Valley is apparently contingent upon the extension of the production of long-staple Upland cotton. Durango cotton, a $1\frac{1}{4}$-inch Upland long-staple cotton,[2] introduced into the Imperial Valley by the Department of Agriculture in 1910, was planted on about 200 acres in 1912, at the same time that the first planting of Egyptian cotton was made. Previous to 1912 it had been demonstrated that the Durango cotton was well suited to local conditions and that it yielded as well as short-staple cotton. As grown under irrigation with an adequate and

[1] Kearney, T. H. Breeding new types of Egyptian cotton. U. S. Dept. Agr., Bur. Plant Indus. Bul. 200, 39 p., 4 pl. 1910.

Kearney, T. H., and Peterson, W. A. Egyptian cotton in the southwestern United States. U. S. Dept. Agr., Bur. Plant Indus. Bul. 128, 71 p., 2 fig., 5 pl. 1908.

[2] Cook, O. F. Durango cotton in the Imperial Valley. *In* U. S. Dept. Agr., Bur. Plant Indus. Cir. 111, p. 11–22, 5 fig. 1913.

McLachlan, Argyle. Culture of Durango cotton in the Imperial Valley. *In* U. S. Dept. Agr., Bur. Plant Indus. Cir. 121, p. 3–12. 1913.

uniform water supply, Durango cotton possesses a high degree of uniformity in length of staple. These qualities of yield and uniformity of the Durango variety have warranted its general extension in the Imperial Valley, which has progressed rapidly since 1912.

Table I shows the total cotton crop, in 500-pound bales, of the Imperial Valley for the years 1909 to 1914, inclusive, the different sorts being specified. These figures are merely estimates, as no absolutely accurate data are available.

TABLE I.—*Cotton crop of the Imperial Valley, 1909 to 1914, inclusive, in bales.*

Year.	Short staple.	Long-staple Upland.	Egyptian.	Total crop.
1909	350	.....	.....	350
1910	4,000	.....	.....	4,000
1911	8,997	3	.....	9,000
1912	6,950	150	100	7,200
1913	15,500	6,000	.....	21,500
1914	34,900	8,000	100	43,000

A number of other varieties of long-staple Upland cotton have been tried, either experimentally or in field plantings,[1] but none of these varieties has proved as well suited to the conditions as the Durango cotton. Besides its superiority over other long-staple Upland varieties in greater uniformity of fiber and in larger size of boll, Durango cotton possesses cultural features which make it well adapted to irrigation farming in the Imperial Valley.[1]

ECONOMIC IMPORTANCE OF LONG-STAPLE COTTON.

When properly grown, Durango cotton has been found to give better net returns than short-staple cotton; that is to say, in equal yields of a bale or more per acre the Durango variety pays better than short-staple cotton, and it may be further stated that it is economically unsound practice, as well as unnecessary, to grow less than a bale of cotton to the acre in the Imperial Valley. Of some 600 growers in the Imperial Valley in 1914, probably 150 were growing Durango cotton.

PROGRESS DUE TO ORGANIZED EFFORT.

The chief purpose of this paper, in showing as clearly as possible how one community has been solving the problems of a developing agricultural industry, can best be served by a rather detailed discussion of the history of the industry. It can be understood from what has already been stated that community organization has been largely responsible for the important advances made in the choice of superior varieties and in the attempted elimination of inferior ones.

This is an example of the practical application of the plan of improving cotton production through community action.

[1] Cook, O. F. Op. cit.

As progress in the industry can be expected to result chiefly through the efforts of organized growers, an account is given of the different organizations that have taken part in the evolution of the industry under discussion. There have been three cooperative organizations of cotton growers in the Imperial Valley, which have had much to do with the progress of the industry.

In 1910 the growers formulated and put into operation a plan for a cooperative ginning and oil-mill company. This company erected and operated the first permanent ginning plant and partly financed the erection of an oil mill. That the company was finally taken over by private interests and that the oil mill was completed by them is no reflection on the plan as conceived by its originators. An outline of the plan is given because of the general interest it may assume in connection with cotton growers' cooperative marketing, ginning, and oil-mill companies.

The organization was established to secure community credit. A stock company was formed, the stock being valued at $15 a share. Bona-fide cotton growers subscribed for this stock, taking a share for each 2 acres planted or to be planted to cotton. A note was given the company for the value of the stock subscribed for, payable in cotton seed on the basis of $15 per ton. As each acre yielding a bale of cotton yields also half a ton of seed, it was expected that seed from each 2 acres of cotton would pay for a share of stock at the end of the first crop year. The note was guaranteed by a crop mortgage, written to include the crop of the succeeding year if the note was not fully paid the first year.

The financing was done through southern California banks, and corporation notes were given, indorsed by each director, stock notes and crop mortgages being attached as collateral security. Obligations of more than $100,000 were assumed by the cooperative company. Had economy been used in carrying out the plan there seems to be no reason why it should not have been successfully consummated.

COOPERATIVE COTTON HANDLING.

The Imperial Valley Cotton-Growers' Exchange, organized early in 1912 and operated during the marketing seasons of 1912 and 1913, was the first successful attempt of the growers to work cooperatively in marketing the crop. This organization functioned purely as a warehousing and marketing association, though it was incorporated to engage in all lines of activity touching the cotton industry, including ginning and the manufacture of oil. It was successful in marketing the 1912 crop of its members, mainly short-staple cotton. It bought and sold cotton successfully and secured for its members better returns for their cotton than could have been realized with only private buyers in the field. The exchange did not buy extensively,

but there is no doubt that by standing ready at all times to engage in buying and to pay full prices it injected into the local situation an effective stimulus to maintain prices at the highest possible level. Yards for warehousing and insuring the baled cotton of members were operated by the exchange at different points in the valley.

The expense of operating the exchange was provided for by a fixed charge on each bale handled. Through the operations of the cooperative exchange in 1912 much was learned about marketing, several outlets for cotton were secured, and confidence was created in the cooperative marketing plan.

In the following season (1913) the exchange functioned mainly in the marketing of long-staple cotton, fully three-fourths of the cotton handled being of this class. More private buyers had come into the valley, so that the competition for short-staple cotton was sufficiently keen to make it unnecessary for the exchange to enter that field. Doubtless, the understanding on the part of the buyers that the exchange stood ready to buy short-staple cotton had some influence on the local market. As a marketing agency for long-staple cotton the exchange proved its value and must be largely credited with insuring the continuance of the Durango cotton industry in the Imperial Valley in 1914. Under the practices pursued by private buyers it is improbable that long-staple cotton could have secured a foothold in the community. Methods of buying cotton which depend for profit on the ignorance of the producer as to the value of his product find greater range of opportunity when applied to long-staple cottons, which possess more factors of value than does short-staple cotton.

While the exchange was successful in marketing membership cotton, the plan of financing, which was the same as in 1912, provided inadequate funds for meeting the expenses in 1913. Added charges assessed against the cotton were sufficient to finance the actual operations, but a deficit resulted from heavy reclamations on some of the cotton, which was all shipped out in so-called "hog-round" lots, that is, without classification.

In 1912 the exchange handled 2,800 bales. In 1913 the organization included 139 members and handled about 5,000 bales.

The financial reliability of the organization was well tested in its warehousing and marketing activities. On each bale of cotton stored in the exchange yards under bonded management and insured, the exchange issued a warehouse receipt and made arrangements for loans at a reasonable rate of interest through Los Angeles and local banks.

From $40 to $50 per bale were loaned on warehouse receipts, so that in 1912 the exchange stood responsible for loans to its members aggregating fully $100,000, and in 1913, for more than double that

amount. The value of cotton marketed in 1912 was about $150,000 and in 1913 something over $300,000.

Sales were made either through cotton brokers by consignment or direct to manufacturers. In case of consignment, arrangements were made for an advance from the factor of an amount sufficient at least to take up the bank loan and release the warehouse receipts, in order to permit shipment by the association. On the sale and delivery of the cotton by the factor final settlement was made. In direct sales samples were submitted to users, the cotton they purchased being paid for on shipment by sight draft attached to the bill of lading.

A LONG-STAPLE COTTON GROWERS' ASSOCIATION.

The Imperial Valley Cotton Growers' Exchange operated during both seasons (1912–13) with very limited capital. The charge assessed was too low to cover operating expenses in 1912 and was not increased until late in the season of 1913. The larger volume of business in sight the second year made any increase appear unnecessary. In spite of this fact the exchange completed both seasons with operating expenses fully paid, the first season by the makeshift of buying and selling cotton, and the second season by using the same methods and by making added charges per bale on such cotton as was marketed late. This was not a satisfactory arrangement, because of the possible danger to a cooperative organization of engaging in the cotton-buying business and because of the loss of confidence that might result from this practice and also from trying to operate on a financial basis requiring extra assessments against some of the cotton in order to cover running expenses. To perpetuate the life and usefulness of the organization these practices had to be done away with. Furthermore, the exchange in 1913 had served mainly as the necessary channel for marketing Durango cotton, its work in marketing short-staple cotton being only incidental.

The necessity for a nonprofiting long-staple cotton growers' association, financed on a substantial self-supporting basis, was quite evident to leading members of the exchange. Therefore, early in 1914 a plan was developed for the reorganization of the exchange on (1) a long-staple, community cotton-growing basis, (2) as a nonprofiting cooperative association, and (3) with financial arrangements providing funds adequate to cover all marketing operations. Some elements of this plan had been included in a proposed reorganization scheme outlined in the spring of 1913, which was not carried through because of lack of sufficient interest among the members. The plan as finally worked out represented the ideas of many of the best cotton growers in the Imperial Valley. An organization was finally effected in the summer of 1914.

In addition to the need of a cooperative selling agency to insure the growers full returns for long-staple cotton, there is an equally pressing requirement for the activity of a growers' organization in connection with the maintenance of a supply of pure seed and the insistence upon intensive cultural practices.

The Imperial Valley Long-Staple Cotton Growers' Association was organized on a plan which guarantees that its operations shall be adequately financed by the initial charge per bale. It arranges for the warehousing and insuring of the baled cotton and sells the product of its members on instructions from them, rendering the members a full account of the transactions. All cotton is sold on classified samples, and reclamations have been practically nil on sales of over 8,000 bales in marketing the 1914 crop. The association has cooperated with the Department of Agriculture in the maintenance and distribution of pure Durango seed.

STABILIZING LONG-STAPLE COTTON.

Stabilization, the continuous production of a crop with a fixed high quality of fiber, is the great problem now confronting the cotton industry in the Imperial Valley, as well as in many other sections of the cotton belt.

In actual application to the long-staple cotton industry, stabilization means the establishment of such practices in the growing and handling of cotton as will bring about the full realization of all the possibilities of the industry. It means the production of the one best variety of cotton throughout the community. It requires community action to insure an adequate supply of pure seed. In ginning, it means turning out a smooth sample without defects resulting from careless mechanical handling. Once the community has established a reputation for producing consistently a high quality of cotton, the problem of satisfactory marketing is greatly simplified. To the manufacturer who avails himself of the opportunity, it means the assurance of an annual supply of the kind of cotton he requires.

The problems in stabilization touch all interests concerned with the cotton industry. The cotton grower, the banker, the merchant, the ginner, the buyer, and the cotton manufacturer are all vitally interested, as they will all share in its advantages to a greater or lesser extent and should therefore contribute to its realization.

THE GROWER AND STABILIZATION.

The most important figure in the cotton industry is the cotton grower. His prominence entails responsibility, as it is by the growing of marketable cotton that the most effective step toward stabilization will be taken.

The grower should produce the largest crop possible on his acreage, because of the high proportion of fixed charges.

In addition to producing a big crop the grower must have it picked free of trash and ginned carefully, so that he will have smooth, undamaged cotton in the bale.

A good formula for the Imperial Valley grower to put into practice in doing his share toward stabilizing the industry can be stated in a few words: Plant good seed of the Durango variety, produce a bale or more per acre, and pick it carefully.

The production of a bale or more per acre of good middling cotton will be realized by growers only by the application of the best cultural and harvesting practices. These practices are listed below:

(1) Thorough leveling of the land, so that water can be applied uniformly.

(2) The maintenance of proper tilth conditions in the soil. This includes irrigation previous to planting, to get the soil into good, moist, planting condition.

(3) The use of pure Durango seed.

(4) Careful preparation of the seed bed.

(5) Planting not later than early May.

(6) Securing and maintaining a full stand of plants.

(7) Thinning the plants by the single-stalk method[1] when the plants are 6 to 10 inches high and leaving them 8 to 10 inches apart in the row. This method has been found to increase the earliness and the yield.

(8) Infrequent early irrigations, to guard against the overluxuriance of vegetative growth and to establish deep rooting.

(9) Thorough and careful irrigation after flowering begins, to insure the normal growth of the plant and bolls and the steady setting of fruit.

(10) Continued shallow cultivation, following each irrigation, as long as it is possible to get a horse between the rows.

(11) Continued irrigation in the fall, in order to mature the late-summer and early-fall setting, which is the heaviest of the fruiting season.

(12) Clean picking, to exclude leaves and other trash.

(13) Careful ginning, to preserve the character and grade of the fiber.

With the exception of two items, this program has to do entirely with the culture of the crop, on which the grower must expend his intelligence and energy.

In the maintenance of pure planting seed, a basic necessity, he has the assistance of the long-staple cotton association, which has undertaken a plan to provide annually a large quantity of first-class planting seed for the industry.

To plant poor seed and spend a season growing a large crop of inferior fiber is a great dissipation of energy and represents a real loss of money. A large crop is synonymous with high quality only if good planting seed is used. With mixed seed the fiber is sure to show inferiority, even if a large crop is grown.

To preserve the quality of the fiber he has grown and to insure a good grade, the grower must have the cooperation of the ginner or else have his ginning done by the association.

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[1] Cook, O. F. Single-stalk cotton culture. U. S. Dept. Agr., Bur. Plant Indus. [Misc. Pub.] 1130, 11 p., 12 fig. 1914.

Just as the growing of a large crop of uneven fiber from inferior planting seed, so ginning of a kind which injures well-grown fiber represents a waste of value. There is loss to the grower in both cases, but in either case his loss is not represented by a corresponding gain to anyone else. It is pure waste. To avert this waste under present ginning arrangements the growers must have the cooperation of the public ginners, so that the full value of the fiber may be preserved in the ginned and baled cotton.

RATOONING SHOULD BE DISCOURAGED.

In connection with the part the grower must play in assisting to bring about the stabilization of long-staple cotton, it should be emphasized that the ratooning of cotton, i. e., growing the crop from stumps of the previous season's planting, should be discouraged. This practice, which was supposed to save the expenses of preparation of land, seed, and planting, has been found to result in loss rather than in gain.

The ratooning of short-staple cotton in the Imperial Valley in previous seasons led to extensive ratooning in 1914, as ratooned short-staple cotton apparently produced as well as seedling cotton and the product had not been discriminated against in the market. Durango cotton on approximately 4,000 acres was ratooned in 1914, with the result that practically all the crop from ratooned fields was ununiform in fiber and very low in grade, and consequently it went on the market with the certainty of bringing a reduced price. While some yields of both were good, seedling Durango cotton probably surpassed in yield the ratooned Durango, although authentic records of comparative yields are not available. Much short-staple cotton also was ratooned, and the crop, as in the case of Durango, was found to be decidedly inferior in quality and value to seedling cotton.

THE GINNER AND STABILIZATION.

The ginner is interested in a stabilized industry because of his large investment in his plant. To know that he will have sufficient cotton to gin to pay him a dividend is of great importance to him. He can well afford to spend time and energy to see that the growers' product is brought to the marketing stage in the best possible condition so far as his handling of the cotton is concerned, since on the success of the grower depends the size of the crop.

Smoothly ginned high-grade cotton sells quickly and at a premium. To get this premium for high-grade fiber is not only essential to the stabilization of the cotton industry, but to the life of the industry as well. For the ginner to take pains to see that the full value of the fiber is preserved in the bale turned out by his gin is a form of insurance for his investment.

ORGANIZED GROWERS AND STABILIZATION.

One of the chief functions of a cooperative association of growers is to coordinate the activities of the grower, the buyer, the manufacturer, and the banker, and establish a condition of mutual confidence among all the interests concerned with the production and use of cotton.

The Long-Staple Cotton Growers' Association is possibly the greatest single aid to the stabilization of the long-staple industry. To realize fully its usefulness as a stabilizing agency it must further actively all that is best for the industry and for the grower. It must persist in the maintenance and distribution of clean, well-selected planting seed, and must develop local talent to assume the work of roguing fields for the maintenance of seed supplies.

The association may be expected to extend its activities to the solution of financial problems affecting the grower, as it is the logical agency to adjust crop loans in the interest of the grower; also warehousing and insurance rates, freight rates, and other financial matters of general interest.

A further function of the association which should not be neglected is the proper use of publicity in discussing the problems of the industry, in order to keep the grower informed of matters of interest to him. It must also do pioneer work in the advocacy of desirable new practices in culture. The exercise of its agricultural functions will contribute to its influence as a stabilizing agency.

COMMUNITY COTTON GROWING.

The most efficient stabilizing principle for which an association of growers can stand is the advocacy of one variety of long-staple cotton for the whole industry, the community cotton plan already referred to.

The growing of one superior variety of cotton throughout the Imperial Valley, involving the elimination of all other varieties, will greatly simplify the problem of securing pure planting seed. This is the most practical way to guard against deterioration from mixing with inferior varieties. Only one sort of cotton going into the trade, and that a superior variety, will be the most effective advertisement the industry can have.

Community cotton growing, through its creation of new common interests, may be expected to result in the more general application of intensive methods of culture.

ONE VARIETY SHOULD BE GROWN PERSISTENTLY.

Community cotton growing implies persistence in the exclusive use of one variety. The continued growing from year to year of the same kind of cotton will have a most important bearing on the

facility with which the crop is marketed; it will also have much to do with the price received for the cotton. It requires several seasons of intelligent business management to introduce and establish with the trade a long-staple cotton from a new locality. After the confidence of users has been gained and their interest has become established through reasonable expectation of getting the same high-quality cotton annually from the same center, it is quite probable that great loss to the growing industry would result through any change of varieties. From time to time there will come reports of enormous yields and big returns received from sorts of cotton other than the one grown in the community, but such reports, which are most frequently unauthenticated rumor, should not be permitted to unsettle the basis of the local industry. Because of the distinct advertising value that attaches to the reputation of a superior article the most good will result from the consistent building up of a valuable specialty.

CONTINUITY OF OPERATIONS.

Continuity of activity by the association is essential to the realization of its greatest efficiency as a stabilizing agency. To limit the activity of the association to the marketing season, from September 15 to March 15, would occasion a great falling off of interest at the end of one marketing season, which would necessitate a campaign for its revival at the beginning of the following season. Much of the momentum acquired during the marketing season would be lost during the suspension of activity in the growing season. In order to assume its full function toward the grower and the community, the association can not afford to interrupt its activity in this manner.

Marketing is the function of the association most readily understood by the public. There should be no illusion, however, on the part of the directorate or management as to marketing being the sole function of the association.

Close and sensitive contact with the members of the association should be maintained throughout the growing season by the management. The condition of every field of association cotton should be on record after actual inspection. If, for instance, a better water supply is required in any district, it is quite possible that the association management can do much to adjust the difficulty promptly, so that the fields may not suffer from drought. The interest the association can show in the growing of marketable cotton by its members will inspire confidence in the organization.

It is not proposed to outline a program of work to engage the association during the summer months, but rather to indicate the importance to the association of the continuity of activity. In actual operation many opportunities will suggest themselves to the man-

agement as important to follow during the growing season in order to provide the association with marketable cotton.

THE BANKER AND STABILIZATION.

The stabilization of the long-staple cotton industry should enlist the support of the banker, because cotton on a standardized basis, with one variety grown intensively, means the best there is financially in the cotton industry for the community. Durango cotton grown from pure seed provides an exceptionally good basis for crop loans; such cotton will command a good premium in the market and is thus first-class collateral.

Good business demands the elimination of the precarious elements from agricultural practices as far as possible. Sentiment for the general production of large yields and for the proper handling of a superior class of cotton can be fostered largely by the banker. Furthermore, the growing of cotton of known high quality does away with the risk attending an industry based on cotton of an unknown or inferior quality. To the grower the raising of cotton of unknown or inferior quality represents waste; to the banker, unnecessary risk. It is of economic interest to the banker to understand the nature and importance of pure planting seed; also to know where it is obtainable and that his patrons are taking the precaution of planting the best seed in order to provide his bank with reliable collateral.

It is of no less importance that the banker take a constructive interest in intensive culture, in order to further the production of maximum quantity and quality. A man growing but half a bale of cotton per acre may be a safe patron because of his innate honesty, but his business is worth little to the bank. Intelligent discussion of the matters of variety, good planting seed, and intensive culture by the banker financing his crop will go far to make the farmer not only a prosperous but a profitable patron.

It is good business for the banker to encourage the stabilization of the cotton industry, since a bale of high-quality cotton to the acre means good deposits, while a half bale per acre of any sort of cotton means the bare payment of loans.

Stabilization would make it possible for the banker to finance the patron's operations, so that the patron might meet all his expenses during the growing season by credit extended by the bank. The present practice is to permit the grower to incur indebtedness with various merchants, the idea being that the grocer, the implement man, and the lumberman should carry their share of the temporary debt.

With agriculture as the one basis of prosperity in the community and cotton growing an important branch of that agriculture, it is to be expected that the banking interests will take a construc-

tive attitude toward the cotton industry. It is taken for granted that the banker is concerned in the permanent prosperity of agriculture and of the agriculturist. He should look beyond the integrity of the individual grower patron and beyond financing him temporarily to the general prosperity of the industry.

THE MANUFACTURER AND STABILIZATION.

A few years ago, shortly after the boll weevil invaded the long-staple regions of Mississippi and Louisiana, manufacturers using long-staple cotton were disturbed seriously because of the reduced supply. Steps were taken by them to promote its rehabilitation in the old long-staple centers. The Department of Agriculture had previously recommended measures for the extension of long-staple cotton growing, and as a result several new centers have been opened up.

A temporary increase of the supply, however, merely adds complications to the situation for the user. The assurance of a regular supply of staple cotton is much more important to the manufacturer than an increased supply temporarily.

The stabilization of the supply of long-staple cotton desired by the manufacturer involves the stabilization of the growing industry in the new centers. Stabilization can be brought about if the industry can be maintained on a basis profitable to the grower. The alteration of marketing methods to insure the grower full returns for his product is essential to the stabilizing of the long-staple industry in these new centers. It is a severe arraignment of present marketing methods to state that the practices of private buyers have formed one of the greatest obstacles to the establishment of long-staple cotton production, but such is the case. The system rather than the individual buyer is at fault.

Manufacturers have urged the extension of long-staple cotton production to increase and insure a steady supply of raw material without taking constructive action to make the growing of long-staple cotton profitable to the producer. The manufacturers can contribute much to the extension and stabilization of long-staple cotton by studying the problem from the growers' point of view. This does not mean that the manufacturer must pay prices beyond the market or that the growing of a long-staple cotton must be subsidized in any way, but it does mean that the manufacturer must know something of the problems of long-staple cotton production. The manufacturer's interest in the supply of superior cotton must extend beyond the broker and he must do his share to get a fair market price into the hands of the producer. The two principals in the stabilization of long-staple cotton growing are the grower and the manufacturer.

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